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Statistics of Prevalence and Number of Registered Cases of Hypoglycemia in the Biochemical Laboratory at Phi "General Hospital"-Strumica in the Period from 2012 to 2016

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Abstract
Hypoglycemia is a condition in which blood sugar is unusually low. When glucose level is too low, the body is unable to perform its activities. From the obtained results from the Biochemical Laboratory at the PHI "General Hospital" - Strumica for the number of patients with hypoglycemia for a period of five years, ie from 2012 to 2016, it can be noticed that the number is not very large. The least number of tests were done In 2012, showing the presence of hypoglycemia in total 8 patients. In 2013, that number increases by 6 newly discovered cases, counting the presence of hypoglycemia in 14 patients. In 2014, were registered a total of 20 cases of hypoglycemia. In 2015, according to statistics, there was a decrease in the number of hypoglycemic patients to 17 cases. In 2016 the number increased again by 23 registered cases. Hypoglycemia as a disease is not very common in our society. To avoid the condition of hypoglycemia, it is best to follow the recommendations of health professionals in diabetics about the time and dose of insulin received because insulin overdose contributes to the condition of hypoglycemia, or proper nutrition for people who have hypoglycemia and are not diabetics.

Keywords: Hypoglycemia, insulin, representation, analysis, statistics

1. Introduction

Hypoglycemia is a condition in which the amount of sugar in the blood decreases, ie when the decrease falls below the reference limits below 4 mmol / L. Hypoglycaemia, or low blood sugar, is more common in people with diabetes mellitus. If the blood glucose level drops to 2 mmol / L a person can have a stroke and if it reaches an area of 0.5 mmol / L a person gets into a coma, which is a state that can damage the brain and lead to death. Hypoglycemia occurs for a variety of reasons, bust most common is the disproportion between the amount of insulin and glucose in the body.

Hypoglycemia most often occurs when: too much insulin is injected, missing a regular meal, taking the wrong therapy, Intense physical activity, patients with diarrhea or vomiting that interfere with normal carbohydrate intake, overproduction of insulin by the pancreas, patients with Addison's disease or in severe functional liver damage.

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Symptoms of hypoglycemia are: starvation, Irritability, paleness, shaking, sweating, confusion, variable speech, fatigue, headache, visual impairment and other.

Initial treatment usually depends on the symptoms. Early symptoms can usually be treated by consuming 15 to 20 grams of fast-acting carbohydrates. Fast-acting carbohydrate foods that are easily converted to sugar in the body, such as: Four to six candies, three to four glucose tablets, one tube of glucose gel, ½ a glass of fruit juice, 1 glass of skim milk, ½ a glass of soda, 1 spoon of honey (placed under the tongue, so it is absorbed faster into the bloodstream.)Food high in fat and protein is not good for treating hypoglycemia because it can slow down the absorption of sugar into the body.

Prevention of hypoglycemia includes: avoiding food that contains refined carbohydrates, frequent eating, food rich in fiber, avoiding alcohol and other. [1-4]

2. Material and methods

For the article purposes, a descriptive method was used to display the data collected from the Biochemical Laboratory at the PHI "General Hospital" - Strumica and the Center for Public Health - Strumica. In the article were used and presented data and results obtained from patients, work diaries and annual reports.

The test material (blood) was taken by a laboratory technician and it was their duty to properly take the sample and transport it to the appropriate laboratory. The blood test was taken in the morning after 12-14 hours of fasting and all tests were performed in a biochemical laboratory where the results were issued after 2 p.m.

3. Results

Table 1. Statistical data on the prevalence and number of registered cases of hypoglycemia in the biochemical laboratory at PHI "Generally Hospital" - Strumica period of 2012-2016.

Year	Total
2012	8
2013	14
2014	20
2015	17
2016	23

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Table 2. Statistics on the number of analyzes included in the biochemical laboratory at PHI "General Hospital" - Strumica divided by gender during the period 2012-2016.

Year	Total	Men	Women
2012	**8**	**5**	**3**
2013	**14**	**9**	**5**
2014	**20**	**12**	**8**
2015	**17**	**11**	**6**
2016	**23**	**13**	**10**

Table 3. Statistical data on the type of therapy in patients with hypoglycemia in the period 2012-2016.

Year	Proper nutrition	Intravenous Glucagon
2012	**8**	**/**
2013	**10**	**4**
2014	**15**	**5**
2015	**14**	**3**
2016	**19**	**4**

4. Discussion

Table number 1 shows statistical data obtained from the Biochemical Laboratory at the PHI "General Hospital" - Strumica for the number of patients with hypoglycemia for a period of five years, ie from 2012 to 2016**.**

From the obtained results it can be noticed that the number of such patients in the Municipality of Strumica as well as in other smaller municipalities in the Strumica region such as Bosilovo, Novo Selo and Vasilevo is not very large. In 2012, there were made the fewest number of analyzes that show the presence of hypoglycemia in total 8. In 2013, that number increased by 6 newly discovered cases and the number of analyzes performed in the Biochemical Laboratory annually with the presence of hypoglycemia is 14 cases. In 2014, there was another increase in the number, where were registered a total of 20 cases of hypoglycemia. In 2015, according to statistics, the number of hypoglycemic patients decreased to 17 cases, and in 2016 it increased again by 23 registered cases.

Table 2 shows the statistical results for the number of registered cases of hypoglycemia in the period from 2012 to 2016, which divides these cases by gender. From the data presented it is clear that every year the number of male cases of hypoglycemia is higher than women with hypoglycemia. The lowest number of cases of hypoglycemia in men was in 2012 with 5 registered cases, and the highest was in 2016 with 13 registered cases. In the female registered analyzes, the lowest number of hypoglycemic patients is in 2012 with 3 cases, while in 2016 there are 10 cases of hypoglycemia.

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Table 3 shows statistics on the type of therapy used in patients with hypoglycemia. Due to the fact that most cases of hypoglycemia are diabetics who due to improper diet or insulin overdose have a reduction in blood sugar are usually recommended as therapy - fast-acting carbohydrates, ie proper nutrition is recommended for blood sugar levels in the short term period to return to normal. According to the data in the tables 3, from 2012 to 2016, the majority of patients are recommended a proper diet to regulate hypoglycemia. Intravenous glucagon is given to patients who have more frequent symptoms of hypoglycemia and where urgent intervention is needed.

5. Conclusion

Hypoglycemia is a condition that is accompanied by many symptoms that the patient can feel but also visible symptoms that can be noticed by the environment. The most common way to detect hypoglycemia in non-diabetics is through the results of biochemical tests. A blood sugar test is an analysis performed during any routine blood test and is the most accurate diagnosis of a hypoglycemic condition. For a life without the consequences of hypoglycemia, the recommendations should be followed as well as the preventive measures that each patient receives from the health professional, be it a doctor, a nurse or a laboratory technician. Otherwise, complications from hypoglycemia can occur, such as hypoglycemic coma, which can be very life-threatening.

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7. Conflict of interest

The author have declared that no competing interests exist.

8. Acknowledgment

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9. Statement of Informed Consent

Written informed consent was obtained from the patient for their anonymized information to be published in this article.

References

1. Rushkovska T; Clinical biochemistry; University GoceDelcev, Stip, Faculty for Medicine Sciences; 2010

2. Ilievska B; Internal lectures, Endocrinology, University GoceDelcev, Stip, Faculty for Medicine Sciences; 2015

3. Janakievik ID, Atanasova M; Script for Clinical Biochemistry; University GoceDelcev, Stip, Faculty for Medicine Sciences; 2015

4. Better Health Channel; Hypoglycaemia; 2020 [www.betterhealth.vic.gov.au]